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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,125	11/21/2005	Jorg Heller	STERN21.003APC	8936

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EXAMINER

WONG, EDNA

ART UNIT	PAPER NUMBER
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1753

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/528,125

Applicant(s)

HELLER ET AL.

Examiner

Edna Wong

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date March 15, 2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the word "Said" is used in line 2. Correction is required. See MPEP § 608.01(b).

Claim Objections

Claims 1 and 5 are objected to because of the following informalities:

Claim 1

line 5, the word -- an -- should be inserted after the word "as".

Claim 5

line 5, the word -- an -- should be inserted before the word "electrolyte".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1

line 7, it appears that the “electrolytic coating” is the same as the electrolytic coating recited in claim 1, line 1. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word “performing”.

lines 8-14, it appears that the “organoaluminum compounds of general formula (I) and (II) ...” are further limiting the “electrolytic bath comprising” recited in claim 1, line 4. However, it is unclear if it is.

If it is, then it is suggested that the word -- further -- be inserted after the word “bath” in line 8.

If it is not, then the electrolytic bath has two separate, independent definitions.

line 12, it appears that the “electrolyte” is the same as the electrolyte recited in claim 5, line 5. However, it is unclear if it is. if it is, then it is suggested that the word -- the -- be inserted after the word “as”.

line 13, the words “can be” are indefinite.

Claim 2

line 2, it appears that the “electrolyte” is the same as the electrolyte recited in claim 5, line 12. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word “as”.

Claim 5

line 3, it appears that the “electrolyte” is the same as the electrolyte recited in claim 2, line 2. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word “as”.

Claim 6

line 2, it appears that the “electrolyte” is the same as the electrolyte recited in claim 1, line 12. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word “as”.

Claim 9

line 3, it appears that the “electrolyte” is the same as the electrolyte recited in claim 1, line 12. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word “as”.

Claim 10

line 2, it appears that the "electrolytic coating" is the same as the electrolytic coating recited in claim 1, line 1. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word "wherein".

Claim 11

line 2, it appears that the "pretreatment" is the same as the pretreatment recited in claim 1, line 5. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word "wherein".

Claim 12

line 2, it appears that the "pretreatment" is the same as the pretreatment recited in claim 1, line 5. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word "wherein".

Claim 16

line 1, it appears that the "electrolytic coating" is the same as the electrolytic coating recited in claim 10, line 2. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word "wherein".

Claim 17

line 1, it appears that the "pretreatment" is the same as the pretreatment recited in claim 11, line 2. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word "wherein".

Claim 18

line 1, it appears that the "pretreatment" is the same as the pretreatment recited in claim 12, line 2. However, it is unclear if it is. If it is, then it is suggested that the word -- the -- be inserted after the word "wherein".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

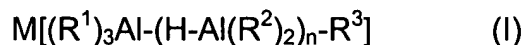
Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **DE 198 55 666** ('666) and **Lehmkuhl et al.** (US Patent No. 6,652,730 B1) in combination with **Dotzer et al.** (US Patent No. 3,969,195).

Lehmkuhl is an English Equivalent of DE '666.

Lehmkuhl teaches a method for electrolytic coating of a material (= electrically conductive materials) with aluminum, magnesium or alloys of aluminum and magnesium

(= aluminum or aluminum-magnesium alloys) [col. 1, lines 8-13], said method comprising:

performing electrolytic coating (= electrolytic deposition) [col. 4, lines 23-37] in an electrolyte (= electrolyte type I, col. 3, lines 13-14; and electrolyte type II, col. 3, lines 32-33), the electrolytic bath comprising organoaluminum compounds of general formulas (I) and (II)



as electrolyte, wherein n is equal to 0 or 1, M is sodium or potassium, and R^1 , R^2 , R^3 , R^4 can be the same or different, R^1 , R^2 , R^3 , R^4 being a C_1 - C_4 alkyl group, and a halogen-free, aprotic solvent being used as solvent for the electrolyte (= toluene) [col. 3, lines 13-14 and 32-33].

A mixture of the complexes $K[AlEt_4]$, $Na[AlEt_4]$ and $AlEt_3$ is employed as electrolyte (col. 3, lines 13-14).

A molar ratio of said complexes $K[AlEt_4]$, $Na[AlEt_4]$ to $AlEt_3$ is from 1:0.5 to 1:3 (col. 3, lines 13-14).

0 to 25 mole-% $Na[AlEt_4]$ is employed, relative to the mixture of the complexes $K[AlEt_4]$ and $Na[AlEt_4]$ (col. 3, lines 2-5).

A mixture of 0.8 mol $K[AlEt_4]$, 0.2 mol $Na[AlEt_4]$, 2.0 mol $AlEt_3$ in 3.3 mol toluene is used as electrolyte (col. 3, lines 2-5).

A mixture of $Na[Et_3Al-H-AlEt_3]$ and $Na[AlEt_3]$ and $AlEt_3$ is used as electrolyte (col.

3, lines 32-33).

A molar ratio of $\text{Na}[\text{Et}_3\text{Al-H-AlEt}_3]$ to $\text{Na}[\text{AlEt}_4]$ is from 4:1 to 1:1 (col. 3, lines 36-39).

A molar ratio of $\text{Na}[\text{AlEt}_4]$ to AlEt_3 is 1:2 (col. 4, lines 14-16).

A mixture of 1 mol $\text{Na}[\text{Et}_3\text{Al-H-AlEt}_3]$, 0.5 mol $\text{Na}[\text{AlEt}_4]$ and 1 mol AlEt_3 in 3 mol toluene is used as electrolyte (col. 4, lines 16-18).

The electrolytic coating is performed at temperatures of from 80 to 105°C (= 90-100°C) [col. 4, lines 31-32].

The molar ratio of said complexes $\text{K}[\text{AlEt}_4]$, $\text{Na}[\text{AlEt}_4]$ to AlEt_3 is 1:2 (col. 3, lines 1-2).

5 to 20 mole-% $\text{Na}[\text{AlEt}_4]$ is employed, relative to the mixture of the complexes $\text{K}[\text{AlEt}_4]$ and $\text{Na}[\text{AlEt}_4]$ (col. 3, lines 2-5).

The molar ratio of $\text{Na}[\text{Et}_3\text{Al-H-AlEt}_3]$ to $\text{Na}[\text{AlEt}_4]$ is 2:1 (col. 3, lines 36-39).

The electrolytic coating is performed at temperatures of from 91 to 100°C (= 90-100°C) [col. 4, lines 31-32].

The method of Lehmkuhl differs from the instant invention because Lehmkuhl does not disclose the following:

a. Immersing the material in the electrolytic bath comprising the same electrolyte for pretreatment, wherein said material is connected as anode therein, as recited in claim 1.

b. Wherein pretreatment is performed for a period of from 1 to 20 minutes, as recited in claim 11.

c. Wherein pretreatment is performed for a period of from 5 to 15 minutes, as recited in claim 17.

Like Lehmkuhl, Dotzer teaches a method for electrolytic coating with aluminum. Dotzer teaches immersing a material (= light metals) [col. 4, line 61 to col. 5, line 3] in an electrolyte bath comprising an electrolyte (= an aprotic organoaluminum electrolyte medium) for pretreatment, wherein said material is connected as an anode therein (= electrically connecting the article as the anode of the circuit) [col. 6, line 30 to col. 7, line 17].

The electrolyte bath comprises organoaluminum compounds of:

AlR_3 ,

$\text{Na}[\text{Al}(\text{C}_2\text{H}_5)_4]$, and

$\text{K}[\text{Al}(\text{C}_2\text{H}_5)_4]$ (col. 6, line 30 to col. 7, line 30).

The pretreatment is performed for a period of from 1 to 20 minutes (= 15 min.) [col. 14, lines 5-10].

The pretreatment is performed for a period of from 5 to 15 minutes (= 15 min.) [col. 14, lines 5-10].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the method described by Lehmkuhl by immersing the material in the electrolytic bath comprising the same electrolyte for pretreatment,

wherein said material is connected as anode therein because pretreating the electrically conductive materials disclosed by Lehmkuhl in an aprotic organoaluminum electrolyte medium would have anodically removed surface layers of oxide and/or scales where the material would have been provided with a tightly adherent, uniform layer of highly pure aluminum as taught by Dotzer (col. 3, lines 24-30; and col. 6, line 30 to col. 7, line 17).

d. Wherein pretreatment is performed at an anodic load of the material with a current density of from 0.2 to 2 A/dm², as recited in claim 12.

e. Wherein pretreatment is performed at an anodic load of the material with a current density of from 0.5 to 1.5 A/dm², as recited in claim 18.

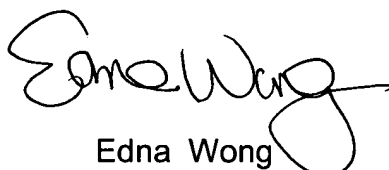
Dotzer teaches a current density of 11 mA/cm² (col. 12, Example 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the pretreatment described by Dotzer with wherein pretreatment is performed at an anodic load of the material with a current density of from 0.2 to 2 A/dm²; and wherein pretreatment is performed at an anodic load of the material with a current density of from 0.5 to 1.5 A/dm² because the current density is a result-effective variable and one skilled in the art has the skill to calculate the current density that would have determined the success of the desired reaction to occur, i.e., sufficient to remove the surface layers of oxide and/or scales (MPEP § 2141.03 and § 2144.05(II)(B)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edna Wong whose telephone number is (571) 272-1349. The examiner can normally be reached on Mon-Fri 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Edna Wong". The signature is fluid and cursive, with a long horizontal stroke extending from the end of the name.

Edna Wong
Primary Examiner
Art Unit 1753

EW
November 21, 2006